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REVIEW

All books, monographs, journal articles, and other publications (including films and other multisensory materials) relating to the history of mathematics are abstracted in the Abstracts Department. The Reviews Department prints extended reviews of selected publications.

Materials for review, except books, should be sent to the Abstracts Editor, Glen Van Brummelen, Bennington College, Bennington, Vermont 05201, U.S.A. Books in English for review should be sent to Tom Archibald, Department of Mathematics and Statistics, Acadia University, Wolfville, Nova Scotia, BOP 1XO, Canada. Books in other languages for review should be sent to Professor Catherine Goldstein, Bâtiment 425 Mathématiques. Université de Paris-Sud, F-91405 Orsay Cedex, France.

Most reviews are solicited. However, colleagues wishing to review a book are invited to make their wishes known to the appropriate Book Review Editor. (Requests to review books written in the English language should be sent to Tom Archibald at the above address; requests to review books written in other languages should be sent to Prof. Catherine Goldstein at the above address.) We also welcome retrospective reviews of older books. Colleagues interested in writing such reviews should consult first with the appropriate Book Review Editor (as indicated above, according to the language in which the book is written) to avoid duplication.

"Aller Männerkultur zum Trotz." Frauen in Mathematik und Naturwissenschaften.

Edited by Renate Tobies. Frankfurt & New York (Campus). 1997. 288 pp. DM. 38.

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This volume contains a collection of essays based on papers presented at the University of Kaiserslautern in summer 1996, which had been organized by Knut Radbruch, the author of the introduction, together with Renate Tobies, the volume's editor. Starting of from Lorraine Daston's historical critique of the concept of "female intelligence," a revised version of an article of 1989, the contributions compile results of recent insightful research on women in science. The papers, written in German, explore scientific and professional careers of women in the fields of mathematics and science in Germany with focus on the period from the end of the 19th century to 1950. Tobies has composed this historical research in a way that brings constituent factors of women's activity in science into view.

Like women in Russia around 1870, who had studied mathematics and science in particular, female students in Germany, since 1908, began to favor these subjects too. The published articles analyze circumstances and opportunities of their scientific careers. Why did Russian and German women as well choose preferentially mathematics and science as subjects of study? Why did their merit receive recognition earlier in mathematics than in other fields? Who smoothed women's path in German universities? How far were they forced to stay in marginal positions? Which opportunities did the newly founded

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Kaiser-Wilhelm-Gesellschaft provide for women? On what occasions were women offered openings in different branches of industry?

Through a variety of well-examined historical examples R. Tobies proves that women not born in Germany—especially those from the United States, Great Britain, and Russia—succeeded in convincing professors at German universities, not least through their scientific performances, that women should be accepted as students and doctoral candidates in mathematics and the natural sciences. She shows that at the end of the 19th century, in contrast to their colleagues in philological subjects, there were quite a number of mathematics and science professors who, like Felix Klein, gave their support to women's studies and the individual fostering of women. In comparison to other countries Germany started to legalize the matriculation of women quite late. Only at the beginning of the 20th century were women allowed to register officially for a subject, which enabled them to become teachers in that subject.

W. Voss demonstrates how far the access of women to upper secondary school education and the increasing numbers of students in science and mathematics around 1910 effected changes, particularly concerning women's opportunities for a career in these domains. Voss illustrates the importance of these factors by presenting the differences in the scientific and professional careers of the Wiegandt sisters, Johanna (1893) and Gertrud (1898), who both received doctoral degrees in mathematics at the Technical University in Dresden. Women's scientific careers were very much contingent on favorable circumstances, such as particular support and promotion by their supervisors, as is shown by R. Tobies for female mathematicians.

U. Deichmann illuminates the opportunities for women in genetics in the first half of the 20th century, when genetics was in the process of being established as a discipline in Germany. Furthermore, A. Vogt documents with surveys what possibilities women found at the Kaiser-Wilhelm-Gesellschaft, an association of national research institutes founded in 1911. In contrast to this, women had to follow a thornier path at universities and in the industrial sector. In the chemical industry women were systematically employed below their qualifications, a fact documented until the Second World War by J. A. Johnson. The situation in universities had been changing slowly, but after 1933 fundamental ruptures occurred in scientific work not only for women but for an essential fraction of all academics. I. Pieper-Seier illustrates the implications of the political situation for Ruth Moufang, the first woman to obtain a professorship in mathematics in Germany (in 1951).

The research published in the collected contributions is based on sources from university, state, and company archives which have not been examined until now. For the first time the documents concerning the theses of the first women to take their doctorates in Göttingen, Sofja Kowalewskaja and Julia Lermontowa, a Russian chemist, are completely published here by C. Tollmien. Thus the whole volume provides a valuable source of information and reflections on the history of women in science.

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